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TECH CENTER 1600/2900

1600

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/905,558D

DATE: 11/04/2003
TIME: 09:49:18

Input Set : A:\1016.SEQLIST.TXT
Output Set: N:\CRF4\11032003\I905558D.raw

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 4 <110> APPLICANT: Garnaat, Carl W.
 5        Roth, Bradley A.
 7 <120> TITLE OF INVENTION: ZmAxig1 Polynucleotides and Methods of
 8        Use
10 <130> FILE REFERENCE: 1016
12 <140> CURRENT APPLICATION NUMBER: US 09/905,558D
13 <141> CURRENT FILING DATE: 2001-07-13
15 <150> PRIOR APPLICATION NUMBER: US 60/217,942
16 <151> PRIOR FILING DATE: 2000-07-13
18 <160> NUMBER OF SEQ ID NOS: 26
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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23 <211> LENGTH: 1271
24 <212> TYPE: DNA
25 <213> ORGANISM: Zea mays
27 <220> FEATURE:
28 <221> NAME/KEY: CDS
29 <222> LOCATION: (170)...(763)
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33 acactagctg ctgtgggacg atcgaagtgg gtgtgtcagc tagctagctg cgccgtgacc 120
34 acgcacatga ccgcagtgcg cgcggggctg atcaagggaa agtgatcgg atg gag ctg 178
35                                                         Met Glu Leu
36                                                           1
38 gag ctc ggg ctc gcg ccg ccg aac ccg cat cag ccg ctg gct gcc gcc 226
39 Glu Leu Gly Leu Ala Pro Pro Asn Pro His Gln Pro Leu Ala Ala Ala
40      5                  10                  15
42 gcc gag ttc gtc ggt ctc ctc agc agc tcg gct ggc tcg tgc ggg aac 274
43 Ala Glu Phe Val Gly Leu Leu Ser Ser Ser Ala Gly Ser Cys Gly Asn
44   20                  25                  30                  35
46 aag agg gtt ctc ggc gac gcg ttc ggg gcc gcc aag gcg gcc acg ctt 322
47 Lys Arg Val Leu Gly Asp Ala Phe Gly Ala Ala Lys Ala Ala Thr Leu
48                  40                  45                  50
50 ccg ctc ttc gtc tgc gag gat ggc gac gga ggc ggc ggc gac cgc gac 370
51 Pro Leu Phe Val Cys Glu Asp Gly Asp Gly Gly Gly Gly Asp Arg Asp
52              55                  60                  65
54 cgc gac ggc gtc gtc gac cat gaa cag caa agc aac aat gta ccc agg 418
55 Arg Asp Gly Val Val Asp His Glu Gln Gln Ser Asn Asn Val Pro Arg
56          70                  75                  80
58 aag aag agg ctg gtg ggg tgg ccg ccg gtg aag tgc gcg cgt agg cgt 466
59 Lys Lys Arg Leu Val Gly Trp Pro Pro Val Lys Cys Ala Arg Arg Arg
60      85                  90                  95
62 agc tgc ggc ggc ggg tac gtg aag gtg aag ctg gaa ggg gtg ccc atc 514
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63 Ser Cys Gly Gly Gly Tyr Val Lys Val Lys Leu Glu Gly Val Pro Ile
64 100             105             110             115
66 ggg cgg aag gtg gac gtg tcc atc cac ggc tcg tac cag gag ctg ctc    562
67 Gly Arg Lys Val Asp Val Ser Ile His Gly Ser Tyr Gln Glu Leu Leu
68             120             125             130
70 cgc acg ctc gag agc atg ttc cct tcg ggt aac caa caa gat cat gca    610
71 Arg Thr Leu Glu Ser Met Phe Pro Ser Gly Asn Gln Gln Asp His Ala
72             135             140             145
74 gaa gac gag gtg gtg gtc tcg cac gag cgc cgc cgt cgc cat cct tat    658
75 Glu Asp Glu Val Val Val Ser His Glu Arg Arg Arg Arg His Pro Tyr
76         150             155             160
78 gta gtc acc tac gag gac ggc gaa ggg gac tgg ttg ctc gtc gga gat    706
79 Val Val Thr Tyr Glu Asp Gly Glu Gly Asp Trp Leu Leu Val Gly Asp
80         165             170             175
82 gat gtg ccg tgg gag gtc ttt gtc aag tca gtg aag cgg ctc aag ata    754
83 Asp Val Pro Trp Glu Val Phe Val Lys Ser Val Lys Arg Leu Lys Ile
84 180             185             190             195
86 ctt gcg tag ccgacggtcg gcgcctcaga gacgtcgtgt ggtccgtctc           803
87 Leu Ala  *
90 accaggatcg gagcagtgta gtactcctgg gcgtcatctg cgtaataacg ttgtttctgt 863
91 cctgtgtgcc cgtagcagta cgtactgtcc tatagtaagc tagctttatg gggtgcttca 923
92 gctttcagag catgacgaaa gcactgatta gctgctgtca tcacatttgg ttcgtctttg 983
93 tgtcgtacgg tatcgctggc gtcagtgtcg cggcagccta ggtgatctaa gcatacttac 1043
94 tatctcaagt tacttttggt ttcctgagct tgcatggtaa ttcatatacc gtatacgtgt 1103
95 gtgactcagg ggcgaagctg ccttaaggca caggggtcac cggacccgat ggaatttatc 1163
96 aaatccagtg taaaatacta tttaacactg ttcatcaata tatttgattt caataaaaaa 1223
97 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa               1271
99 <210> SEQ ID NO: 2
100 <211> LENGTH: 197
101 <212> TYPE: PRT
102 <213> ORGANISM: Zea mays
104 <400> SEQUENCE: 2
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106  1             5               10              15
107 Ala Ala Ala Ala Glu Phe Val Gly Leu Leu Ser Ser Ser Ala Gly Ser
108             20              25              30
109 Cys Gly Asn Lys Arg Val Leu Gly Asp Ala Phe Gly Ala Ala Lys Ala
110         35              40              45
111 Ala Thr Leu Pro Leu Phe Val Cys Glu Asp Gly Asp Gly Gly Gly Gly
112     50              55              60
113 Asp Arg Asp Arg Asp Gly Val Val Asp His Glu Gln Gln Ser Asn Asn
114 65              70              75              80
115 Val Pro Arg Lys Lys Arg Leu Val Gly Trp Pro Pro Val Lys Cys Ala
116             85              90              95
117 Arg Arg Arg Ser Cys Gly Gly Gly Tyr Val Lys Val Lys Leu Glu Gly
118             100             105             110
119 Val Pro Ile Gly Arg Lys Val Asp Val Ser Ile His Gly Ser Tyr Gln
120         115             120             125
121 Glu Leu Leu Arg Thr Leu Glu Ser Met Phe Pro Ser Gly Asn Gln Gln
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122     130                    135                 140
123 Asp His Ala Glu Asp Glu Val Val Val Ser His Glu Arg Arg Arg Arg
124 145               150               155                   160
125 His Pro Tyr Val Val Thr Tyr Glu Asp Gly Glu Gly Asp Trp Leu Leu
126               165               170               175
127 Val Gly Asp Asp Val Pro Trp Glu Val Phe Val Lys Ser Val Lys Arg
128               180               185               190
129 Leu Lys Ile Leu Ala
130          195
133 <210> SEQ ID NO: 3
134 <211> LENGTH: 1310
135 <212> TYPE: DNA
136 <213> ORGANISM: Zea mays
138 <400> SEQUENCE: 3
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140 tgttcttatt cagactaccg ttcgagtgac tgcatggcgt acatctttct gcatcgactt 120
141 tgtacggcta catcgaacat atacacgaga tgtctcgtgt gaatagagtc actaatgcct 180
142 taagcatcgg ttactccgta gggtacattc tgttcttctt atttgtgcat atttttattg 240
143 ttgtttactg attatacgag tagttataca tacatgcaca tacatatcat cacatatatc 300
144 acaatatttt tctaaattaa attaaaacta aaaatgacta aatttctaac accaacgaca 360
145 ttgtaatgtt ttctccaaca actttaccta ttctacattg ttctatttcg aatttcactc 420
146 tataaacaac atagtctaca atggaaaaca gtgctttgta cgactatata cgcgatgtgt 480
147 ggctacaaca taagacaata tagtcgtttg aagattgaac ctatatatcg gtacggttaa 540
148 tccgtctatg tacgtgggca tgacgaacac ccgtgataac gaaggattaa cgtgcacaat 600
149 cataaatcca aagtaggagc ggtgcatgat gagaatcgct ctcagtactc gacataatga 660
150 accttacgag gtacaacagg caggcaggca gggaccaggg gccgcctttta tttcaggcctt 720
151 gctggcccca cgggcgtgct gcgtgcacga agggcactac cccaacctct caccgaaaaa 780
152 ccgcgctgga tcggcaaatc aaacgaggtg gtgccccgtg cccactctcc acgtccacgg 840
153 caccatccct ctgcagccgc tcaccagcca tgccgtgtcg cggaacggca caaccacccc 900
154 caacccactc acgaaacccc gtcccggccg tgcccgtgtc ggtccgcgct cggcaacgag 960
155 gcggcccgcg ctgctgagtc ccctggacac ccgacacccct gtcggcccctt tgtttattca 1020
156 tcccgaaatc tcatctgccc ccacggccga ctgcgctgcg ccgcccggat atatataccc 1080
157 atcgttatcg atcgatcgat cgcgtcactc acgggtagct catggtcgag cgtagcatgc 1140
158 aggaacttat ttgccgtgcg ctcccaggtc tccgctcgcg tgccttccag tctgtctcac 1200
159 actagctgct gtgggacgat cgaagtgggt gtgtcagcta gctagctgcg ccgtgaccac 1260
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163 <211> LENGTH: 1310
164 <212> TYPE: DNA
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167 <400> SEQUENCE: 4
168 cccatcgctg ctttgtctac atcatgttct tcatcatcct ccccaggcga cgcgtgctgc 60
169 tgttcttatt cagactaccg ttcgagtgac tgcatggcgt acatctttct gcatcgactt 120
170 tgtacggcta catcgaacat atacacgaga tgtctcgtgt gaatagagtc actaatgcct 180
171 taagcatcgg ttactccgta gggtacattc tgttcttctt atttgtgcat atttttattg 240
172 ttgtttactg attatacgag tagttataca tacatgcaca tacatatcat cacatatatc 300
173 acaatatttt tctaaattaa attaaaacta aaaatgacta aatttctaac accaacgaca 360
174 ttgtaatgtt ttctccaaca actttaccta ttctacattg ttctatttcg aatttcactc 420
175 tataaacaac atagtctaca atggaaaaca gtgctttgta cgactatata cgcgatgtgt 480
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177 tccgtctatg tacgtgggca tgacgaacac ccgtgataac gaaggattaa cgtgcacaat 600
178 cataaatcca aagtaggagc ggtgcatgat gagaatcgct ctcagtactc gacataatga 660
179 accttacgag gtacaacagg caggcaggca gggaccaggg gccgccttta tttcaggctc 720
180 gctggcccca cgggcgtgct gcgtgcacga agggcactac cccaacctct caccgaaaaa 780
181 ccgcgctgga tcggcaaatc aaacgaggtg gtgccccgtg cccactctcc acgtccacgg 840
182 caccatccct ctgcagccgc tcaccagcca tgccgtgtcg cggaacggca caaccacccc 900
183 caacccactc acgaaacccc gtcccggccg tgcccgtgtc ggtccgcgct cggcaacgag 960
184 gcggcccgcg ctgctgagtc ccctggacac ccgacaccct gtcggccctt tgtttattca 1020
185 tcccgaaatc tcatctgccc ccacggccga ctgcgctgcg ccgcccggat atatataccc 1080
186 atcgttatcg atcgatcgat cgcgtcactc acgggtagct catggtcgag cgtagcatgc 1140
187 aggaacttat ttgccgtgcg ctcccaggtc tccgctcgcg tgccttccag tctgtctcac 1200
188 actagctgct gtgggacgat cgaagtgggt gtgtcagcta gctagctgcg ccgtgaccac 1260
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192 <211> LENGTH: 3123
193 <212> TYPE: DNA
194 <213> ORGANISM: Zea mays
196 <400> SEQUENCE: 5
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198 tgttcttatt cagactaccg ttcgagtgac tgcatggcgt acatctttct gcatcgactt 120
199 tgtacggcta catcgaacat atacacgaga tgtctcgtgt gaatagagtc actaatgcct 180
200 taagcatcgg ttactccgta gggtacattc tgttcttctt atttgtgcat atttttattg 240
201 ttgtttactg attatacgag tagttataca tacatgcaca tacatatcat cacatatatc 300
202 acaatatttt tctaaattaa attaaaacta aaaatgacta aatttctaac accaacgaca 360
203 ttgtaatgtt ttctccaaca actttaccta ttctacattg ttctatttcg aatttcactc 420
204 tataaacaac atagtctaca atggaaaaca gtgctttgta cgactatata cgcgatgtgt 480
205 ggctacaaca taagacaata tagtcgtttg aagattgaac ctatatatcg gtacggttaa 540
206 tccgtctatg tacgtgggca tgacgaacac ccgtgataac gaaggattaa cgtgcacaat 600
207 cataaatcca aagtaggagc ggtgcatgat gagaatcgct ctcagtactc gacataatga 660
208 accttacgag gtacaacagg caggcaggca gggaccaggg gccgccttta tttcaggctc 720
209 gctggcccca cgggcgtgct gcgtgcacga agggcactac cccaacctct caccgaaaaa 780
210 ccgcgctgga tcggcaaatc aaacgaggtg gtgccccgtg cccactctcc acgtccacgg 840
211 caccatccct ctgcagccgc tcaccagcca tgccgtgtcg cggaacggca caaccacccc 900
212 caacccactc acgaaacccc gtcccggccg tgcccgtgtc ggtccgcgct cggcaacgag 960
213 gcggcccgcg ctgctgagtc ccctggacac ccgacaccct gtcggccctt tgtttattca 1020
214 tcccgaaatc tcatctgccc ccacggccga ctgcgctgcg ccgcccggat atatataccc 1080
215 atcgttatcg atcgatcgat cgcgtcactc acgggtagct catggtcgag cgtagcatgc 1140
216 aggaacttat ttgccgtgcg ctcccaggtc tccgctcgcg tgccttccag tctgtctcac 1200
217 actagctgct gtgggacgat cgaagtgggt gtgtcagcta gctagctgcg ccgtgaccac 1260
218 gcacatgacc gcagtgcgcg cggggctgat caagggaaag tgatcggatg gagctggagc 1320
219 tcgggctcgc gccgccgaac ccgcatcagc cgctggctgc cgccgccgag ttcgtcggtc 1380
220 tcctcagcag ctcggctggc tcgtgcggga acaagagggt tctcggcgac gcgttcgggg 1440
221 ccgccaaggc ggccacgctt ccgctcttcg tctgcgagga tggcgacgga ggcggcggcg 1500
222 accgcgaccg cgacggcgtc gtcgaccatg aacagcaaag caacaagtga gttgtggtta 1560
223 aaaataccga ccacgtgcgt acagggaggg tcttattata cccaaatccg atccgtggtg 1620
224 tgtgtagtgt acccaggaag aagaggctgg tggggtggcc gccggtgaag tgcgcgcgta 1680
225 ggcgtagctg cggcggcggg tacgtgaagg tgaagctgga aggggtgccc atcgggcgga 1740
226 aggtggacgt gtccatccac ggctcgtacc aggagctgct ccgcacgctc gagagcatgt 1800
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RAW SEQUENCE LISTING   DATE: 11/04/2003
PATENT APPLICATION: **US/09/905,558D**   TIME: 09:49:18

Input Set : **A:\1016.SEQLIST.TXT**
Output Set: **N:\CRF4\11032003\I905558D.raw**

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228 cggcggtgct gcggacgatg cctttctttc actgataatc atctgccgcc atcgttctgg 1920
229 tcccgacacg tgcccttgct tccccgttctg ctcccggcac ttaacttggt cgcatatact 1980
230 attcctgtaa cctctggcag atcatgcaga agacgaggtg gtggtctcgc acgagcgccg 2040
231 ccgtcgccat ccttatgtag tcacctacga ggacggcgaa ggggactggt tgctcgtcgg 2100
232 agatgatgtg ccgtgggagt acgtatcagt cactactact gtcgtctgta tgactgtatc 2160
233 gatggtgacg gcaacaatat aatccaatta attattcagc gaacttaaaa acgacgttga 2220
234 tttccttgca gggtcttgt caagtcagtg aagcggctca agatacttgc gtagccgacg 2280
235 gtcggcgcct cagagacgtc gtgtggtccg tctcaccagg atcggagcag tgtagtactc 2340
236 ctgggcgtca tctgcgtaat aacgttgttt ctgtcctgtg tgcccgtagc agtacgtact 2400
237 gtcctatagt aagctagctt tatggggtgc ttcagctttc agagcatgac gaaagcactg 2460
238 attagctgct gtcatcacat ttggttcgtc tttgtgtcgt acggtatcgc tggcgtcagt 2520
239 gtcgcggcag cctaggtgat ctaagcatac ttactatctc aagttacttt tggtttcctg 2580
240 agcttgcatg gtaattcata taccgtatac gtgtgtgact caggggcgaa gctgccttaa 2640
241 ggcacagggg tcaccggacc cgatggaatt tatcaaatcc agtgtaaaat actatttaac 2700
242 actgttcatc aatatatttg atttcaataa ttcatggagc tgaccttgtg gatccatttt 2760
243 ctgtcttcgc ctctggtgtg actagtattt tggtttgact tttcactctg tataagatat 2820
244 atattatacc agcgagttta tcgactgcta gttttacaag aggcttaact ctttcaattg 2880
245 cttatttta ttgcaacaac acactcctcc gttgttgtgg tattagatgt ggttctgaat 2940
246 gtaaatgtca ttataggata taaatgtagt gtttcctagt tttaccctag ctttcgcatg 3000
247 catagtggga aagtgtacta actctcctca tgcagaaaga ggtgtggtat acctaacaaa 3060
248 atcatacatc actactaatc tacggataat atatataaac cgtagcgaca cacgagtgct 3120
249 tag                                                              3123
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252 <211> LENGTH: 28
253 <212> TYPE: DNA
254 <213> ORGANISM: Zea mays
256 <400> SEQUENCE: 6
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260 <211> LENGTH: 28
261 <212> TYPE: DNA
262 <213> ORGANISM: Zea mays
264 <220> FEATURE:
266 <400> SEQUENCE: 7
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269 <210> SEQ ID NO: 8
270 <211> LENGTH: 29
271 <212> TYPE: DNA
272 <213> ORGANISM: Zea mays
274 <400> SEQUENCE: 8
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278 <211> LENGTH: 29
279 <212> TYPE: DNA
280 <213> ORGANISM: Zea mays
282 <400> SEQUENCE: 9
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 11/04/2003
PATENT APPLICATION: US/09/905,558D   TIME: 09:49:19

     Input Set : A:\1016.SEQLIST.TXT
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:20; N Pos. 236,242,257,276,420,457,463,470,486,508,540,554,580,586,596
Seq#:21; Xaa Pos. 5,6,18,19,22,33,45,47,51,54,55,56,57,61,62,63,65